Valid from 29 July 2022
to 16 May 2024
Issued on 29 July 2022

As an accredited laboratory, this laboratory is entitled to use the following accreditation symbol.

ISO/ IEC 17025
CL 012-01

Schedule of Accreditation

Accreditation Scheme for Testing / Calibration Laboratories
Sri Lanka Accreditation Board for Conformity Assessment
Accreditation Number: CL 012-01

WAGA Calibration Services (Pvt) Ltd

275B, Railway Road
Maharagama

Scope of Accreditation: Performing Mechanical calibration (Force, Pressure, Mass, Dimension, Volume), Electrical, Thermal, Optical and Time & Frequency and Machine performance verification as per the calibration methods appearing in the schedule.

The laboratory is accredited for the following calibrations.

SI No.	Type of Instrument	Calibration Performed	Calibration methods / Measurement Procedure	Range of Calibration	Calibration Measurement Capability	Location
1.	**Electrical**					
1.1	Analog and Digital Electrical measuring equipment / Indicators	DC Voltage	WAGA/CM/30	0 mV to 20 mV 20 mV to 200 mV 0.2 V to 2 V 2 to 20 V 20 V to 200 V 200 V to 1000 V	0.0006 mV 0.0011 mV 0.0061 mV 0.06 mV 0.61 mV 2.2 mV	Laboratory
				-10 mV to 1 V 1 V to 12 V	0.001 mV 0.58 mV	Site
		AC Voltage (rms)		1 mV to 20 mV (50 Hz to 100 kHz) 20 mV to 200 mV (50 Hz to 100 kHz) 0.2 V to 2 V (50 Hz to 100 kHz) 2 V to 20 V (50 Hz to 100 kHz) 20 V to 200 V (50 Hz to 1 kHz) 200 V to 1000 V (50 Hz to 1 kHz)	0.006 mV 0.009 mV 0.035 mV 0.22 mV 2.0 mV 0.037 V	Laboratory
		DC Current		0 µA to 200 µA 200 µA 2 mA 2 mA 20 mA 20 mA to 200 mA 200 mA to 20 A	0.001 µA 0.01 µA 0.1 µA 2 µA 20 µA	Laboratory
				01 mA to 22 mA	58 µA	Site

SI No.	Type of Instrument	Calibration Performed	Calibration methods / Measurement Procedure	Range of Calibration	Calibration Measurement Capability	Location
1.1	Analog and Digital Electrical measuring equipment / Indicators	AC Current (rms)	WAGA/CM/30	10 µA to 200 µA (50 Hz to 1 kHz) 200 µA 2 mA (50 Hz to 1 kHz) 2 mA 20 mA (50 Hz to 1 kHz) 20 mA to 200 mA (50 Hz to 1 kHz) 200 mA to 20 A (50 Hz to 500 Hz)	0.06 µA 0.07 µA 0.001 mA 0.01 mA 0.05 mA	Laboratory
		Digital Frequency		0.1 Hz to 10 MHz 10 MHz to 100 MHz	0.0058 mHz 0.058 mHz	Laboratory
				100 Hz to 50 kHz	0.058 mHz	Site
		Inductance		1 mH to 10.0 mH (1 kHz) 10 mH to 100 mH (1 kHz) 100 mH to 1 H (1 kHz) 1 H to 10 H (1 kHz)	1.1 µH 11 µH 0.11 mH 1.1 mH	Laboratory
		Resistance		1 Ω to 1 kΩ 1 kΩ to 1 MΩ 1 MΩ to 120 MΩ 1 GΩ	5.8 mΩ 5.8 Ω 0.58 kΩ 5.8 MΩ	Laboratory
				1 Ω to 400 Ω 400 Ω to 4.0 kΩ	0.006 Ω 11 mΩ	Site
		Capacitance		1 nF to 1 µF (1 kHz) 1 µF to 100 µF (100 Hz)	0.0008 nF 0.8 nF	Laboratory
		Power Factor		-1 to 1 (Lagging & Leading)	0.0024	Laboratory
1.2	Analog and Digital Electrical Equipment with sources	DC Voltage	WAGA/CM/30	0 mV to 1 V 1 V to 10 V 10 V to 100 V 100 V to 1000 V	0.0009 mV 0.011 mV 0.10 mV 1.4 mV	Laboratory
				0 mV to 1 V 1 V to 20 V 20 V to 30 V 30 V to 600 V	0.0009 mV 0.09 mV 0.24 mV 0.013 V	Site
		AC Voltage (rms)		10 mV to 100 mV (50 Hz to 1 kHz) 100 mV to 10 V (50 Hz to 1 kHz) 10 V to 100 V (50 Hz to 1 kHz) 100 V to 1000 V (50 Hz to 1 kHz)	0.007 mV 0.12 mV 1.4 mV 0.014 V	Laboratory
				10 mV to 600 mV (50 Hz to 1 kHz) 0.6 V to 6 V (50 Hz to 1 kHz) 6 V to 60 V (50 Hz to 1 kHz) 60 to 600 V (50 Hz to 1 kHz)	0.11 mV 1.4 mV 9.0 mV 0.012 V	Site
		DC Current		0 mA to 10 mA 10 mA to 100 mA 100 mA to 1 A 1 A to 3 A	0.1 µA 0.5 µA 8.2 µA 82 µA	Laboratory
				0 A to 30 mA 30 mA to 6 A 6 A to 10 A	0.59 mA 1.1 mA 11 mA	Site/Laboratory
		AC Current (rms)		0.1 A to 1 A (50 Hz to 500 Hz) 1 A to 3 A (50 Hz to 500 Hz)	0.024 mA 0.24 mA	Laboratory
				3 mA to 100 mA (50 Hz to 500 Hz) 100 mA to 6 A (50 Hz to 500 Hz) 6 A to 10 A (50 Hz to 500 Hz)	1.1 mA 1.2 mA 2.1 mA	Site
		Digital Frequency		1 Hz to 1 kHz 1 kHz to 100 kHz 100 kHz to 1 MHz 1 MHz to 10 MHz	0.067 Hz 0.67 Hz 1 Hz 0.7 kHz	Laboratory
				10 Hz to 10.0 kHz 10 kHz to 50 kHz	0.11 Hz 0.15 Hz	Site

SI No.	Type of Instrument	Calibration Performed	Calibration methods / Measurement Procedure	Range of Calibration	Calibration Measurement Capability	Location
1.2	Analog and Digital Electrical Equipment with sources	Resistance	WAGA/CM/30	0 Ω to 0.1 kΩ 0.1 kΩ to 100 kΩ 100 kΩ to 1 MΩ 1 MΩ to 10 MΩ 10 MΩ to 100 MΩ	0.7 mΩ 0.7 Ω 2.9 Ω 0.07 kΩ 6.9 kΩ	Laboratory
				1 Ω to 6 kΩ 6 kΩ to 60 kΩ 60 kΩ 600 kΩ 600 kΩ to 6 MΩ 6 MΩ to 40 MΩ	0.11 Ω 1.3 Ω 0.11 kΩ 0.13 kΩ 1.3 kΩ	Site
		Capacitance		1 nF to 500 nF 500 nF to 1 µF 1 µF to 20 µF 20 µF to 100 µF	1.1 pF 1.2 nF 8.2 nF 0.082 µF	Laboratory / Site
1.3	Clamp Meters	DC Current	WAGA/CM/027	1 µA to 200 µA 0.2 mA to 200 mA 20 mA to 200 mA 200 mA to 2 A 2 A to 20 A 20 A to 100 A 100 A to 500 A 500 A to 1100 A	0.059 µA 1.2 µA 0.12 mA 1.2 mA 12 mA 0.12 A 0.58 A 2.9 A	Laboratory
		AC Current		10 µA to 200 µA (50 Hz to 1 kHz) 0.2 mA to 2 mA (50 Hz to 1 kHz) 2 mA to 200 mA (50 Hz to 1 kHz) 200 mA to 2 A (50 Hz to 1 kHz) 2 A to 20 A (50 Hz to 1 kHz) 20 A to 100 A (50 Hz to 1 kHz) 100 A to 500 A (50 Hz to 1 kHz) 500 A to 1100 A (50 Hz to 1 kHz)	0.061 µA 1.2 µA 0.12 mA 1.3 mA 12 mA 0.12 A 0.58 A 2.9 A	Laboratory
		AC Voltage		1 mV to 20 mV (50 Hz to 20 kHz) 20 mV to 200 mV (50 Hz to 20 kHz) 0.2 V to 2 V (50 Hz to 20 kHz) 2 V to 20 V (50 Hz to 20 kHz) 20 V to 200 V (50 Hz to 1 kHz) 200 V to 1000 V (50 Hz to 20 kHz)	0.006 mV 0.009 mV 0.035 mV 0.22 mV 2.0 mV 0.037 V	Laboratory
		DC Voltage		0 mV to 20 mV 20 mV to 200 mV 0.2 V to 2 V 2 V to 20 V 20 V to 200 V 200 to 1000 V	0.0006 mV 0.0011 mV 0.0061 mV 0.06 mV 0.61 mV 2.2 mV	Laboratory
		Resistance		1 Ω to 1 kΩ 1 kΩ to 1 MΩ 1 MΩ to 120 MΩ 1 GΩ	5.8 mΩ 5.8 Ω 0.58 kΩ 5.8 MΩ	Laboratory
1.4	Insulation Testers	Generation of insulation resistance	WAGA/CM/028	100 kΩ to 1 MΩ 1 MΩ to 10 MΩ 10 MΩ to 200 MΩ 200 MΩ to 1 GΩ 1 GΩ 10 GΩ 10 GΩ to 100 GΩ	0.012 kΩ 0.012 MΩ 0.013 MΩ 0.33 MΩ 0.027 GΩ 0.12 GΩ	Laboratory

SI No.	Type of Instrument	Calibration Performed	Calibration methods / Measurement Procedure	Range of Calibration	Calibration Measurement Capability	Location
1.4	Insulation Testers	Open Circuit Voltage (Measurement of Voltage)	WAGA/CM/ 028	0 kV to 2 kV 2 kV to 10 kV	6.0 V 7.4 V	Laboratory
		Short Circuit Current (measurement of current)		0 mA to 2 mA 2 mA to 20 mA	0.01 mA 0.03 mA	
1.5	Multimeters	DC Voltage	WAGA/CM/ 017	0 mV to 20 mV 20 mV to 200 mV 0.2 V to 2 V 2 V to 20 V 20 V to 200 V 200 V to 1000 V	0.0006 mV 0.0011 mV 0.0061 mV 0.06 mV 0.61 mV 2.2 mV	
		AC Voltage		1 mV to 20 mV (50 Hz to 20 kHz) 20 mV to 200 mV (50 Hz to 20 kHz) 0.2 V to 2 V (50 Hz to 20 kHz) 2 V to 20 V (50 Hz to 20 kHz) 20 V to 200 V (50 Hz to 1 kHz) 200 V to 1000 V (50 Hz to 1 kHz)	0.006 mV 0.009 mV 0.068 mV 0.22 mV 2.0 mV 0.037 V	
		DC Current		0 µA to 200 µA 200 µA to 2 mA 2 mA to 20 mA 20 mA to 200 mA 200 mA to 20 A	0.001 µA 0.01 µA 0.1 µA 2 µA 20 µA	
		AC Current		10 µA to 200 µA (50 Hz to 1 kHz) 200 µA 2 mA (50 Hz to 1 kHz) 2 mA 20 mA (50 Hz to 1 kHz) 20 mA to 200 mA (50 Hz to 1 kHz) 200 mA to 20 A (50 Hz to 500 Hz)	0.06 µA 0.07 µA 0.001 mA 0.01 mA 0.05 mA	
		Resistance		1 Ω to 1 kΩ 1 kΩ to 1 MΩ 1 MΩ to 120 MΩ 1 GΩ	5.8 mΩ 5.8 Ω 0.58 kΩ 5.8 MΩ	
		Capacitance		1 nF to 1 µF (1 kHz) 1 µF to 100 µF (100 Hz)	0.0008 nF 0.8 nF	
		Digital frequency		0.1 Hz to 10 MHz 10 MHz to 100 MHz	0.0058 mHz 0.058 mHz	
1.6	Calibration of pH Meter	Simulation of Voltage (Indicator)	WAGA/CM/ 024	0 pH, 4 pH, 7 pH, 10 pH, 14 pH (-413 mV to +413 mV)	0.0006 pH	Laboratory / Site
		Standard Reference Buffer Solutions (Electrode)		pH 0 to 14	0.007 pH	
Thermal						
2.1	Dial Thermometer	Direct Comparison	WAGA/CM/ 029	-30 ºC to 150 ºC 150 ºC to 200 ºC 200 ºC to 600 ºC	0.19 ^{0}C 0.33 ^{0}C 0.41 ºC	Laboratory / Site

SI No.	Type of Instrument	Calibration Performed	Calibration methods / Measurement Procedure	Range of Calibration	Calibration Measurement Capability	Location
2.1	Temperature Indicators and Simulators by Electrical Simulation and Measurement	**Electrical simulation of Temperature indicators / controllers intended to be used with thermocouple**				
		Thermocouple Type				
		K	WAGA/CM/023	-200 ºC to 1370 ºC	0.68 ºC	Laboratory / Site
		J		-210 ºC to 1200 ºC	0.68 ºC	
		T		-200 ºC to 400 ºC	0.68 ºC	
		R		-50 ºC to 1765 ºC	0.69 ºC	
		S		- 50 ºC to 1760 ºC	0.69 ºC	
		B		300 ºC to 1800 ºC	0.70 ºC	
		E		-200 ºC to 1000 ºC	0.68 ºC	
		N		-200 ºC to 1300 ºC	0.68 ºC	
		C		0 ºC to 2315 ºC	0.69 ºC	
		L		-200 ºC to 900 ºC	0.68 ºC	
		U		-200 ºC to 600 ºC	0.68 ºC	
		Electrical simulation of temperature indicators / controllers intended to be used with PRT / RTD				
		PT 100	WAGA/CM/023	-180 ºC to 850 ºC	0.36 ºC	Laboratory / Site
2.2	Temperature Indicators and Simulators by Electrical Simulation and Measurement	**Electrical simulation of Temperature simulator intended to be used with thermocouple**				
		Thermocouple Type				
		K	WAGA/CM/023	-200 ºC to 1370 ºC	0.17 ºC	Laboratory / Site
		J		-210 ºC to 1200 ºC	0.17 ºC	
		T		-200 ºC to 400 ºC	0.17 ºC	
		R		-50 ºC to 1765 ºC	0.48 ºC	
		S		-50 ºC to 1760 ºC	0.48 ºC	
		B		200 ºC to 1800 ºC	0.63 ºC	
		E		-200 ºC to 1000 ºC	1.1 ºC	
		N		-200 ºC to 1300 ºC	0.17 ºC	
		C		0 ºC to 2315 ºC	0.21 ºC	
		L		-200 ºC to 900 ºC	0.15 ºC	
		U		-200 ºC to 600 ºC	0.16 ºC	
		Electrical simulation of temperature simulator intended to be used to be used with PRT/RTD				
		PT 100	WAGA/CM/023	-180 ºC to 850 ºC	0.58 ºC	Laboratory / Site
2.3	Temperature enclosures – Nine point	Multi-point temperature verification	WAGA/CM/020	-30 ºC to 300 ºC	0.46 ^{0}C	Laboratory / Site
2.4	Temperature enclosures – Three point	Three-point temperature verification	WAGA/CM/041	-30º C to 300 ºC	0.46 ^{0}C	Laboratory / Site
2.5	Muffle / Tube furnace	Temperature verification	WAGA/CM/045	100 ºC to 200 ºC 200 ºC to 700 ºC 700 ºC to 1100 ºC	0.17 ^{0}C 0.20 ^{0}C 0.70 ^{0}C	Site
2.6	Thermocouples	Direct comparison under controlled conditions	WAGA/CM/015	150ºC to 700 ºC 700 ºC to 1200 ºC	1.4 ^{0}C 2.0 ^{0}C	Laboratory
2.7	Liquid Baths	Performance verification in temperature	WAGA/CM/042	25 ºC to 250 ºC	0.35 ^{0}C	Laboratory / Site

SI No.	Type of Instrument	Calibration Performed	Calibration methods / Measurement Procedure	Range of Calibration	Calibration Measurement Capability	Location
2.8	Hygrometers	Direct comparison under controlled conditions (Temperature, Humidity)	WAGA/CM/ 047	10 to 45 ºC (@ 40 %, 50 %, 60 %)	0.16 ^{0}C	Laboratory
				30 % to 90 % (@ 20, 25,30 ^{0}C)	1.3 %	
3. Pressure						
3.1	Pressure transmitter / Transducer	Measurement of pneumatic pressure	WAGA/CM/ 021	-75 mbar to 75 mbar	0.001 mV/V/mbar 0.0008 mA/A/mbar	Laboratory
		Measurement of hydraulic pressure		0 to 40 bar	0.001 mV/V/bar 0.0003 mA/A/bar	
				0 to 700 bar	0.002 mV/V/bar 0.002 mA/A/bar	
				0 to 1000 bar	0.011 mV/V/bar 0.11 /A/bar	
4. Mass						
4.1	Weighing Scales	Linearity check with conventional mass values	WAGA/CM/ 044	0 kg to 150 kg 150 kg to 500 kg	0.93 g 4.0 g	Laboratory / Site
4.2	Determination of conventional Mass Value: Class F1 and below Class F1	Based on double substitution method (ABBA) OIML R 111 and MSL Technical Guide 7	WAGA/CM/ 003	**Class F1 and below F1**		Laboratory
				1 g	0.064 mg	
				2 g	0.064 mg	
				5 g	0.064 mg	
				10 g	0.065 mg	
				20 g	0.067 mg	
				50 g	0.068 mg	
				100 g	0.069 mg	
				200 g	0.080 mg	
				500 g	0.65 mg	
				1000 g	0.68 mg	
				2000 g	1.2 mg	
				5000 g	2.2 mg	
				Class F2 and below F2		Laboratory
				10 kg	5.5 mg	
				20 kg	0.2 g	
5. Dimension						
5.1	Dial Gauge	Linear measurement by direct comparison	WAGA/CM/03 5	0 to 25 mm 25 mm to 50 mm	0.9 µm 6.0 µm	Laboratory
5.2	Steel Ruler	Linear measurement by direct comparison	WAGA/CM/01 4	0 to 1000 mm	0.29 mm	Laboratory
5.3	Vernier Caliper	Linear measurement by direct comparison	WAGA/CM/03 6	0.5 mm to 150 mm 150 mm to 500 mm 500 mm to 1000 mm (External calibration)	0.9 µm 8.8 µm 13 µm	Laboratory
				0.5 mm to 200 mm (Depth calibration)	0.9 µm	Laboratory

SI No.	Type of Instrument	Calibration Performed	Calibration methods / Measurement Procedure	Range of Calibration	Calibration Measurement Capability	Location
5.4	External Micrometer	Linear measurement by direct comparison	WAGA/CM/013	0.5 mm to 50 mm 50 mm to 100 mm 100 mm to 500 mm	1.0 µm 1.3 µm 2.0 µm	Laboratory
5.5	Height Gauge	Linear measurement by direct comparison	WAGA/CM/037	0.5 mm to 200 mm 200 mm to 300 mm 300 mm to 500 mm	8.8 µm 9.5 µm 10.0 µm	Laboratory
5.6	Feeler Gauge	Linear measurement by direct comparison	WAGA/CM/043	0.05 mm to 1 mm	3.2 µm	Laboratory
6. Volume						
6.1	Laboratory glassware	Determination of volume by gravimetric method in: One mark pipette Graduate pipette Burette Volumetric Flask Graduated measuring cylinder Graduated beaker Conical flask	WAGA/CM/038	0 to 5 ml 0 to 50 ml 0 to 100 ml 0 to 200 ml 0 to 500 ml 0 to 1000 ml 0 to 2000 ml	0.003 ml 0.009 ml 0.009 ml 0.014 ml 0.17 ml 0.33 ml 0.65 ml	Laboratory
7. Force						
7.1	Torque Measuring Devices	Torque measurement by direct comparison	WAGA/CM/040	0 to 50 Nm 0 to 220 Nm 0 to 2200 Nm	0.88 Nm 0.88 Nm 0.88 Nm	Laboratory
8. Optical						
8.1	Illuminance Meters	Illuminance measurement	WAGA/CM/039	0 Lux to 10 Lux 10 Lux to 20 Lux 20 Lux to 200 Lux 200 Lux to 1000 Lux 1000 Lux to 2000 Lux 2000 Lux 10000 Lux 10000 Lux to 20000 Lux	3.2 % 3.1 % 2.5 % 2.2 % 2.6 % 3.7 % 6.0 %	Laboratory
9. Time and Frequency						
9.1	Tachometers	Non-contact Type by Electrical Pulse	WAGA/CM/019	6 rpm to 1000 rpm 1000 rpm to 10000 rpm 10000 rpm to 100000 rpm	0.007 rpm 0.06 rpm 0.6 rpm	Laboratory
9.2	Rotating Machines (including centrifuges)	Speed	WAGA/CM/018	6 rpm to 1000 rpm 1000 rpm to 99,999 rpm	3.6 rpm 5.4 rpm	Laboratory / Site
10. Performance Verification						
10.1	Colour Fastener Testers	Temperature	WAGA/CM/032	30 ºC to 100 ºC	0.26 ºC	Site
		Speed		30 rpm to 100 rpm	2.7 rpm	
		Time		15 min to 90 min	1.7 sec	
		Volume		500 ml to 1500 ml	8.0 ml	
10.2	Heat Transfer Press Machines	Temperature	WAGA/CM/031	100 ^{0}C to 200 ^{0}C	0.44 ^{0}C	Site
		Pressure		0 bar to 20 bar	0.02 bar	
		Time		5 sec to 30 sec	1.3 sec	

SI No.	Type of Instrument	Calibration Performed	Calibration methods / Measurement Procedure	Range of Calibration	Calibration Measurement Capability	Location

10.3	Metal detector	**Apparel Industry** (Nine point)	WAGA/CM/033	0.8 mm to 1.2 mm (ferrous)	*	Site
		Products / Packs (Convey belt)				
		Dry Products (0 to 200 mm product height)	WAGA/CM/033	1.0 mm to 1.8 mm (ferrous)	*	Site
				1.2 mm to 2.2 mm (non-ferrous aluminum)		
				1.5 mm to 3.0 mm (Stainless steel 316)		
		Wet Product (0 to 200 mm product height)		1.8 mm to 3.0 mm (ferrous)	*	Site
				2.5 mm to 4.0 mm (non-ferrous aluminum)		
				3.5 mm to 5.0 mm (Stainless steel 316)		
		Aluminum Foil Pack (0 mm to 100 mm Product height)		1.0 mm to 4.0 mm (ferrous)	*	Site
		Aluminum Foil Pack (100 mm to 200 mm Product height)		1.0 mm to 1.6 mm (ferrous)	*	Site
		Free fall Vertical Packing Application				
		Dry products (0 to 250 mm apparatus diameter)	WAGA/CM/033	1.0 mm to 1.8 mm (ferrous)	*	Site
				1.2 mm to 2.0 mm (non-ferrous / aluminum		
				1.5 mm to 2.5 mm (Stainless steel 316)		
		Wet / Frozen products and Metalized film packed products (0 to 250 mm aperture diameter)	WAGA/CM/033	1.5 mm to 2.5 mm (ferrous)	*	Site
				2.0 mm to 3.2 mm (non-ferrous / aluminum		
				2.5 mm to 4.0 mm (Stainless steel 316)		
		Pipeline Application (Liquids, Slurries and Pastes)				
		Wet Products (0 to 100 mm internal pipe diameter)	WAGA/CM/033	1.5 mm to 2.5 mm (ferrous)	*	Site
				2.5 mm to 3.0 mm (non-ferrous / aluminum	*	
				3.0 mm to 4.0 mm (Stainless steel 316)	*	

* Comment on pass or fail as per the machine performance

C.N. Ghose

Director / CEO
Sri Lanka Accreditation Board for Conformity Assessment